United States Department of
Health & Human Services
Office of the Secretary
Office of Public Health Emergency Preparedness (OPHEP)

The Future of Public Health Emergency Preparedness

Like, I Would Know?

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Introduction

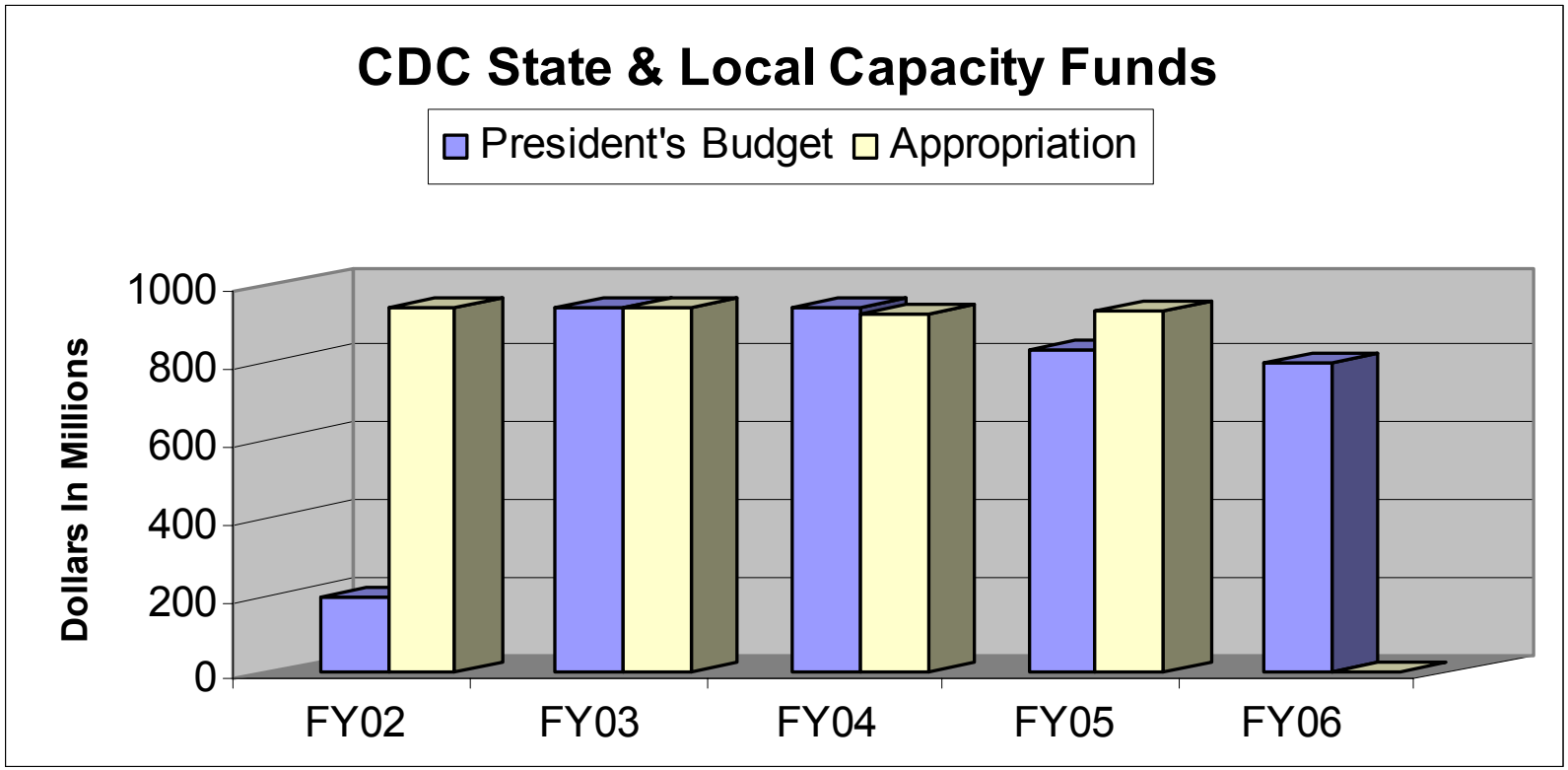
- "… what's past is prologue …"

  --- W. Shakespeare

- Today's actions and inactions cast long but imprecise shadows into the future.

- Where we've been says a lot about where we're going.

Funding Since 2002



Issues Re Funding Levels (1)

- What is the proper role for the federal government re S&L public health infrastructure?

- What is the proper role of the federal government re S&L emergency preparedness?

Issues Re Funding Levels (2)

- What competes with S&L public health activities for federal government support?

- Which investments in state and local public health emergency preparedness are best done centrally rather than through the cooperative agreements?

Issues Re Funding Levels (3)

Centrally Funded Investments
In S&L Emergency Preparedness

Strategic National Stockpile
BioSense
Quarantine Stations
Cities Readiness Initiative

Impressive Gains Since 2002

- Workforce: quality and quantity
- Laboratories: maturation of LRN
- Information Technology
- Incident Management Systems

Differential Gains

- Between States
- Within States
- Which part of “emergency” didn’t you understand?

High-Compliance Milestones

- At Least One Epidemiologist for Every Metropolitan Area with Population Greater than 500,000

- Health Alert Network Coverage for Greater than 90% of Population

Low-Compliance Milestones

- 24/7 Receipt of Emergency Case Reports
- Gap Analysis of Statutes, Regulations, and Ordinances re quarantine, isolation, and movement restrictions
- Local Distribution and Dispensing of Materiel from Strategic National Stockpile

Compliance Correlation

- The greater the expected benefit for public health infrastructure overall, the higher the compliance.

- The sharper the focus on emergency preparedness, the lower the compliance.

Foci for Differing Perspectives

- Likelihood of a Terrorist Act That Will Result in Mass Casualties
- Balance of Investment between General Enhancement of Public Health Infrastructure and Emergency Response
- Balance of Investment among Local, State, and Federal Government Assets

Are We on the Same Page?

- "Commenting on the public health preparedness side, I would say that the greatest challenge is getting and keeping agreement on threats and priorities of the threats."

- W.F. Raub, Congressional Hearing on BioDefense Strategy, June, 2004
- Cited in "Ready or Not: Protecting the Public's Health in the Age of Bioterrorism", Trust for America's Health, 2004

Executive Branch Perspective

- When a public health emergency outstrips local and State resources, mayors and governors call the President for help.
- The President is pledged to fulfill that expectation.
- History will judge harshly any President who fails to prepare to answer the call.

The Catastrophic Event (1)

- Some types of events are more likely than others to overwhelm local and State assets:

  Category 4 hurricane

  Richter 6.5 earthquake

  Pandemic influenza

  Bioterrorism with smallpox or anthrax

  Explosion of nuclear device

The Catastrophic Event (2)

- Bioterrorism and nuclear events are especially worrisome because the terrorists get to decide

  where

  when

- Further, unlike Mother Nature, terrorists can act without warning and can reload quickly.

The Catastrophic Event (3)

- The federal government must be prepared to augment local and state assets with materiel and people.
- The federal government response must mesh readily with the local and state response – hence

  National Response Plan

  National Incident Management System

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Smallpox as BioThreat (1)

- Highly communicable; highly lethal
- Few Americans have immunity.
- Causative agent (Variola major) likely is in terrorists' hands.

Smallpox as BioThreat (2)

- Highly effective vaccine
- No effective treatment
- New antiviral countermeasures are a high priority for NIH research.

Smallpox as BioThreat (3)

- Effective biodefense requires

  prompt detection

  accurate diagnosis

  prompt mass immunoprophylaxis

- Federal Government has ample supply of smallpox vaccine and the means to deliver it rapidly anywhere in the U.S.

Immunoprophylaxis Objective (1)

- Municipalities and States should have the infrastructure in place to provide smallpox vaccination

  to the symptomatic individuals and their known or likely contacts within 3 days

  to the rest of the potentially at-risk individuals – possibly the entire jurisdiction – within 10 days

Immunoprophylaxis Objective (2)

- HHS sees mass immunoprophylaxis as a high-priority performance objective to be met at the municipal and substate regional level.
- If you had to meet this objective, could you?
- If not, what are you telling your community?

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Anthrax as BioThreat (1)

- Lends itself to terrorist use
- Spore form (vegetative state) can be made into a powder with some difficulty
- N.B.: 2001 Mailings; USPS BDS System

Anthrax as BioThreat (2)

- Ubiquitous; easy to obtain
- Easy to grow in large quantities
- Easy to work with surreptitiously

Anthrax as BioThreat (3)

- Antibiotics are effective if given before symptoms appear.
- Effective vaccine exists but supply is too small to allow mass immunization.
- Effective vincetoxic countermeasures – e.g., monoclonal antibody therapeutics – still are undergoing development.

Anthrax as BioThreat (4)

- Anthrax countermeasures are the highest priority for Project BioShield.

  A contract is in place for 75 million doses of a new anthrax vaccine for addition to Strategic National Stockpile.

  Contract proposals for candidate anthrax treatments are under review.

Anthrax as BioThreat (5)

- A new twist on an old threat:

  B. anthracis can be prepared as a slurry of spores and crystalline toxin molecules.

  The slurry can be dispersed efficiently as an aerosol with commercially available equipment – such as crop dusters.

Anthrax as BioThreat (6)

- B. thuringensis in slurry form has been sprayed over large areas for pest control – e.g., gypsy moth eradication in forests.

- Plume can cover many square miles.

Anthrax: Connecting Dots (1)

- Terrorists have ready means to expose densely populated areas to aerosolized slurry of B. anthracis spores and toxins.

- Those who inhale an infectious dose will be at high risk for inhalational anthrax.

Anthrax: Connecting Dots (2)

- Symptoms of inhalational anthrax will be the first sign of inhalation of infectious dose.
- No rapid way to define at-risk population quickly.
- The first cases of inhalational anthrax are likely to occur within 48 hours.

Anthrax: Connecting Dots (3)

- Untreated, inhalational anthrax is about 90% fatal.
- Even with intensive care, survival is about 50% at best.
- A hundred cases could overwhelm the healthcare system of a typical large city.

Anthrax: Connecting Dots (4)

- A large outdoor release of aerosolized B. anthracis spores could put hundreds of thousands (and possibly millions) of people at risk.

- With healthcare facilities overwhelmed, fatalities could number in the tens of thousands.

Anthrax: Connecting Dots (5)

- Mass chemoprophylaxis is the only means to prevent catastrophic loss of life following such an exposure.

- Given the characteristics of the anthrax organism, the entire at-risk community should receive chemoprophylaxis as soon as possible after exposure.

Chemoprophylaxis Objective (1)

- Municipalities and substate regions should have the infrastructure to provide antibiotics to the at risk population within 48 hours of the decision to do so.

- This at-risk population could be the entire municipality or region – plus commuters and transients.

Chemoprophylaxis Objective (2)

- HHS sees mass chemoprophylaxis as a high-priority performance objective to be met at the municipal and substate regional level.
- If you had to meet this objective, could you?
- If not, what are you telling your community?

Preparedness is Asymmetrical

- Preparing for catastrophic events almost guarantees readiness for lesser – and more likely – challenges.

- It doesn't work the other way round.

Performance if the Key (1)

- Several calls for improved performance – e.g.,

  Homeland Security Presidential Directive (HSPD #8)

  General Accountability Office

  HHS Office of the Inspector General

  Trust for America's Health

Performance if the Key (2)

- Focus of HHS Contract with RAND – e.g.,
  - Assessing HHS objectives
  - Testing proficiency in handling emergency case reports
  - Identifying useful exercises
  - Identifying exemplary practices
  - Fostering continuous quality improvement

What now?

- “Whereof what’s past is prologue, what to come in yours and my discharge.”

  --- W. Shakespeare, The Tempest